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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,392	07/15/2005	Yuichi Mori	55610/DBP/A400	3091

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EXAMINER	
HAYES, KRISTEN C	
ART UNIT	PAPER NUMBER
3643	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/542,392	MORI ET AL.	
	Examiner	Art Unit	
	KRISTEN C. HAYES	3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8, 10-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8, 10-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 5 contains the abbreviation JIS L1092. The meaning of this abbreviation could change over time, or could be interpreted in different ways rendering the claim indefinite.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-4, 7, 8 and 10-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Tonkin et al. US Patent 6,615,537 (hereinafter “Tonkin”) in view of Wright EP Application 0 268 556 (cited on IDS filed 22 December 2005).

6. Regarding claim 1, Tonkin discloses a plant cultivating system (Tonkin, Fig: 2) comprising a container (6) having a shape; a non-porous hydrophilic film (5) (Tonkin, column 3: lines 41-43) in contact with water (7). Not disclosed is the water containing fertilizer. Wright teaches water containing fertilizer that contacts a plant through hydrophilic film (Wright, column 4: lines 15-19). It would have been obvious to one of ordinary skill in the art at the time of the

invention to add fertilizer to the water of Tonkin as taught by Wright as to provide a nutrient rich medium to the plants.

7. Regarding claim 2, Tonkin in view of Wright further discloses the film showing an electrical conductivity difference of 4.5 dS/m or less (Tonkin, column 4: lines 49-51…60-61, column 7: lines 39-40). Tonkin discloses film of a polyvinyl alcohol with a thickness of 40μm, which is one of the same films described in the specification of the instant application as showing a difference of less than 4.5 dS/m in electric conductivity in a water/saline solution system at the time four days after the start of measurement. The method used to determine the electrical conductivity is considered a product by process limitation. The product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe,* USP 964, 966. The film disclosed by Tonkin meets the limitations of the claim.

8. Regarding claim 3, Tonkin in view of Wright further discloses the film showing a Brix concentration difference of 4% or less (Tonkin, column 4: lines 49-51…60-61, column 7: lines 39-40). Tonkin discloses film of a polyvinyl alcohol with a thickness of 40μm, which is one of the same films described in the specification of the instant application as showing a Brix concentration difference of 4% or less in a glucose solution system at the time three days after the start of contact. The method used to determine the Brix concentration is considered a product by process limitation. The product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe,* USP 964, 966. The film disclosed by Tonkin meets the limitations of the claim.

9. Regarding claim 4, Tonkin in view of Wright further discloses a device with the limitations of claim 1 further characterized by the film showing a peeling strength of 10g or more with

respect to the root of the plant body (Tonkin, column 4: lines 49-51…60-61, column 7: lines 39-40); in that Tonkin discloses film of a polyvinyl alcohol with a thickness of 40μm, which is one of the same films described in the specification of the application as showing a peeling strength of 10g or more with respect to the root of the plant body at the time of day 35 at the inside of the film. Although Tonkin does not explicitly state that the peeling strength of the film is 10g or more, it would have been obvious to use such a film. The more force required to remove the film from the roots of the plant, the more likely that the film integrated with the roots. A film with a peeling strength less than 10g might not fully integrate with the plant. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Tonkin with a film showing a peeling strength of 10g or more to ensure that the film integrated with the roots of the plant.

10. Regarding claim 10, Tonkin in view of Wright further discloses the hydrophilic film being polyvinyl alcohol (Tonkin, column 4: line 61).

11. Regarding claim 7, Tonkin discloses a plant cultivating system (Tonkin, Fig: 2) comprising a container (6) having a shape; a non-porous hydrophilic film (5) (Tonkin, column 3: lines 41-43) in contact with water (7) and placed on the water in a manner such that the lower surface of the non-porous hydrophilic film is in contact with the surface of the water; a plant (4) on the non-porous hydrophilic film. Not disclosed is the water containing fertilizer or the roots of the plant growing on and integrated with the film. Wright teaches water containing fertilizer that contacts a plant through hydrophilic film (Wright, column 4: lines 15-19), and Wright further teaches a plant film integrate comprising a plant body (17) and a film (10) that has substantially been integrated with the root of the plant body (Wright, column 8: lines 18-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to add fertilizer to the water of Tonkin as taught by Wright as to provide a nutrient rich medium to the plants, and to

integrate the plant body roots of Tonkin with the film, as taught by Wright, to increase the strength and durability of the roots.

12. Regarding claim 8, Tonkin in view of Wright further discloses a plant-retaining support disposed on the non-porous hydrophilic film (Tonkin, column 5: line 65- column 6: line 5).

13. Regarding claim 11, Tonkin in view of Wright further discloses the film having a thickness of 10 microns (Tonkin, column 7: lines 39-40).

14. Regarding claim 12, Tonkin in view of Wright further discloses the film is added onto a porous material (Tonkin, column 5: line 65-column 6: line 5). Not disclosed is the film being laminated to the other film. However, this is considered a product by process limitation. The product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe,* USP 964, 966.

15. Regarding claim 13, Tonkin further discloses the porous material comprising an unwoven polyethylene fabric having communicating pores (Tonkin, column 5: line 65-column 6: line 5).

16. Claims 1, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori EP 1 203 525 in view of Wright EP Application 0 268 556.

17. Regarding claim 1, Mori discloses a plant-cultivating system comprising a container having a shape; a non-porous hydrophilic film (4) (Mori, ¶0042); wherein the container is filled with water (7). Not disclosed is the water containing fertilizer. Wright teaches water containing fertilizer that contacts a plant through hydrophilic film (Wright, column 4: lines 15-19. It would have been obvious to one of ordinary skill in the art at the time of the invention to add fertilizer to the water of Mori as taught by Wright as to provide a nutrient rich medium to the plants.

18. Regarding claim 5, Mori in view of Wright further discloses the film having a water impermeability of more than 10cm (Mori, page 5: lines 30, page 12: lines 52-53). The method used to determine the water impermeability is considered a product by process limitation. The product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe,* USP 964, 966. The film disclosed by Tonkin meets the limitations of the claim.

19. Regarding claim 6, Mori discloses a plant body (5) and a film (4) comprising a nonporous hydrophilic film (Mori, ¶0042) showing a peeling strength of 10g or more with respect to the root of the plant body (Mori, ¶0042-0043); in that Mori discloses film of a polyvinyl alcohol with a thickness of 40μm, which is one of the same films described in the specification of the application as showing a peeling strength of 10g or more with respect to the root of the plant body at the time of day 35 at the inside of the film. Not disclosed is the film being substantially integrated with the root of the plant body. Wright discloses a plant film integrate comprising a plant body (17) and a film (10) that has substantially been integrated with the root of the plant body (Wright, column 8: lines 18-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to integrate the plant body roots of Mori with the film, as taught by Wright, to increase the strength and durability of the roots, and for the film of Mori to have a peeling strength of 10g or more to ensure that the film integrated with the roots of the plant.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

20. The applicant argues that the fertilizer would not be able to pass through the film of Tonkin to reach the plant. However in claim 1, the fertilizer is not claimed as being in contact with the plant body through the film.

21. Also, the applicant points out that it is known in the art that hydrophilic membranes don't pass fertilizer, so it is unclear as to how to hydrophilic membrane of the instant invention would pass fertilizer differently from the membrane of Tonkin or Mori. The instant invention discloses that hydrophilic films or membranes can pass fertilizer as ions. The fertilizers of Wright are ions, therefore, the hydrophilic films of Tonkin and Mori would be able to pass the ion fertilizers of Wright.

22. The technical features of the film of the instant invention that allow the film to pass fertilizer as ions are not claimed. The structure of the invention as claimed is disclosed by the references.

23. As to the films of Tonkin and Mori not producing film integration without fertilizer, Wright is used to modify the systems of these references with fertilizer. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KRISTEN C. HAYES whose telephone number is (571)270-3093. The examiner can normally be reached on Monday-Thursday, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on (571)272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCH
18 February 2010

/Rob Swiatek/
Primary Examiner, Art Unit 3643
19 February 2010